






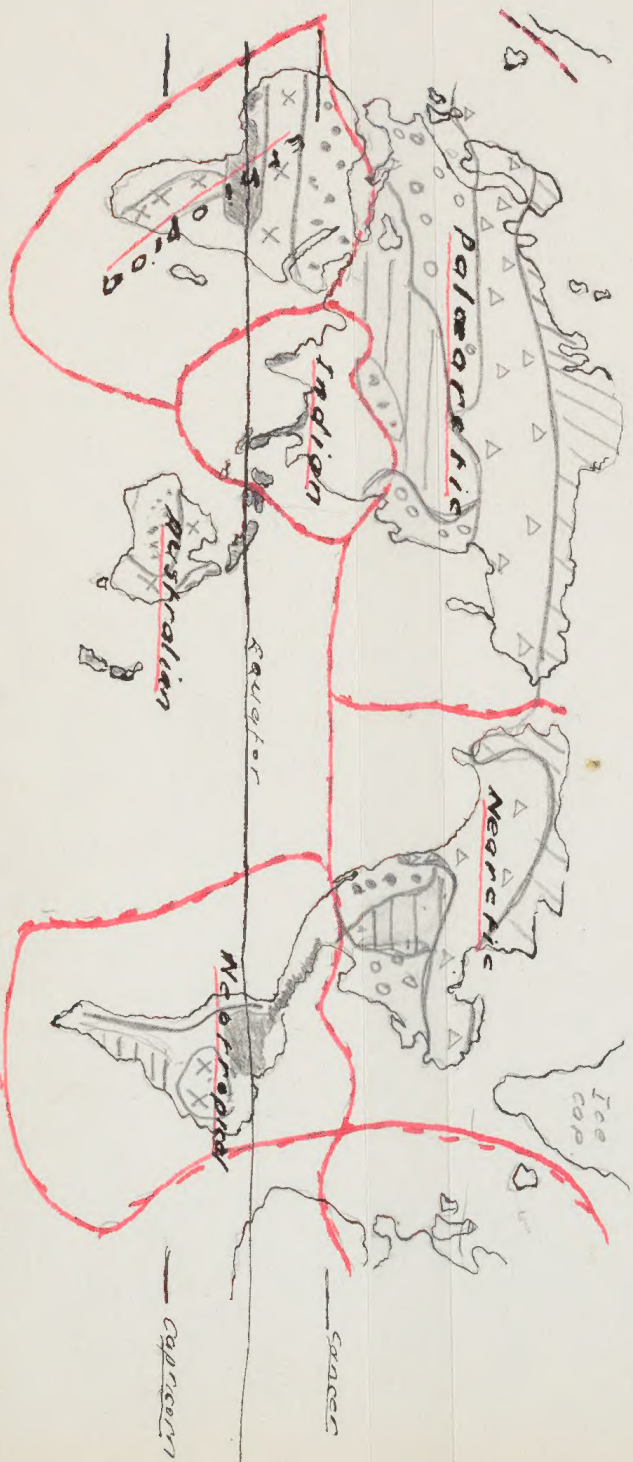


BIRDS
of
THE WORLD

Zoogeographical Regions.

- | | | | | | |
|--|------------------------|---|-----------------------------|---|-----------------------|
|  | Tundra-barren waste. |  | Desert shrub |  | Tropical rain forest. |
|  | Coniferous forest |  | Steppe & prairie grassland. | { | Highland sublim. |
|  | Mixed deciduous forest |  | Savannah | | |



Notes on Geographic Regions and their Avifauna

Palearctic Region

Tundra, Conif. Forest, Decid. Forest, Steppe., Seacoast

Crows Linches larks warblers hedge-sparrows
grouse pheasants accentors

Nearctic Region

Tundra, Conifer, Steppe, Desert Shrubland, Decid. Forest.

Cathartidae, Melagapidae, Troglodytidae,
Mimidae, Vireonidae, Parulidae (Woodpeckers),
Chamaelidae (Chimney-suckers)

Ethiopian Region

Desert Shrubbe, Savannah, Trop. Rainforest.

asch, mouse hole, plantain - eating, secondary forest

murpa rambas.

Indian Region

Tropical rain forest, plains

Broadbills: Bulbuls, Drongos, mynas,
Hornbills etc.

Australian Mammals

Described by, ... to ...

... Cassowary, ...
... karyophora, ...

Neotropical Region

trop. rain forest; savannas, ~~trop. grass~~
~~land~~

not just ~~avifauna~~, rous, jaca-ars,
not much tinamous, pheas

Ratite: The word Ratite is used in a
vernacular sense only, nowadays, for
what must be regarded as a polyphyletic
group composed of the following orders:
Struthionidae, Apterygidae, Casuarii,
Rheae, and Scaphiuridae; Some would
combine the last two which are
South American. The Ratites are
also referred to by various authors
as "Struthionidae" or "Palaeognathae".
— Condon S A D Vol 22. 4. 44

Under Sphenisciformes
(maybe diff. position & spelling)

Spheniscidae Penguins

Related to Petrels - many
flightless - differ from all birds in having
no developed ^{feather} feathers for wings.

flippers used only for swimming - not only
but also in swimming. feet stick
out - used in steering. ^{Swim under}
water some speed up by leaps.

Distrib: Humboldt Penguin north to Peru &
with Chile. McQueen Penguin north to

Gulf of Mexico. (Spheniscus mendiculus)

only one species to tropics - just north of
equator. ^{at}
distribution all over southern and antarctic coasts,
continent etc.

Habits: Drink sea water, some fresh
also. Eggs 1, 2, 3. Large & more only
1 egg - both have to incubate - on feet under
flap of skin. Incubated approx 1 - 2 weeks.
weeds of plankton & like. There is
brood in normal fashion.

N/B 9/10 of marking markings on head.
Bodies under water great deal.
Come ashore for reports mouth.

16-17 species

by Order Struthioniformes

Four Struthionidae. Colaptes.

Dist. Antipod.

Characters 2 toes only 3rd & 4th. Penis developed.
Culmen medium enormous. Wings short.
In perfect soft feathers. Tail moderate.

Habit Polynesian - eaten by birds and great birds
in forest and other places. Polygonous
all leaves of 1 with long - same nest. Incubation
of ♂ but occasionally of other birds.

Habitat Plains & low hills. Parties 5-12.

Eggs - creamy white. - sandy hollow 10-30

Sp. 3-4 subspecies - 1 species extinct 1941

Voice Booming power.

Young Polynesian. Polynesian Polygyny
10.

Order Rheiformes.

Family Rheidae - Rheas.

Characters 3 front toes Culmen large. Wings
short - perfect soft feathers. Tail not apparent.

Distribution North America : Bahia Argentina,
Uruguay, Paraguay.

Habitat Plains, marshy areas.

Habits Was hunted with horns (long slender)
groups up to 20-30 when moving away from
water.

Voice Booming. Polygonous. May put 30-60 eggs -
one nest. Hudson. Eggs golden
yellow at first.

(Hudson) R. darwini: young have long feathers
& tails. (old world). Young grey and black +
white. implies others.

1/6 Hellmayri Polynesian like Antipod. give two
genera. Phococeros Hellmayri = 6-8.
young = 2-4.

Order Casuariiformes.

Fam: Casuariidae.

~~Ant. Shorter~~ Head & base of culmen with
elevated helmet. Toes³ long - middle longest
outer longest - inner one armed with long
powerful claw. Wings rudimentary tail
not apparent

Diet Papus & subsp. with Vth inst.
to New Guinea

Habitat Scrub.

Loc. Rich pasture hill.

♂ 1st yr 1/2 ad.

Notes yds - 3.4 eggs.

♀. ♂ Incub.?

Sp. 2 -

Order Casuariiformes.

Fam Dromaeidae: Curus.

Character wing, and tail not apparent. 3 toes
inner one shortest

Diet Fruit.

Order: Apterygiformes

Fam: Apterygidae: Kiwis

Wings very long, slender. Long wings
featherless, covered with feathers, all
featherless. Toes 3 before & short hind toe

Distr. New Zealand

Habitat: damp dense forest. Feeding on
insects, grass. Food - Worms, insect
larvae etc, vegetable matter.
Build: Small little fawn.

Voice: Short cry

Nesting: 1-3 eggs, in the earth

Incubation: 40 days, both parents

Threatened

Order: Tinamiformes (Cryptor) ^{mostly in} _{the tropics}

Fam: Tinamidae

Character: Superficially like partridge

Wings short concave. Tail - mostly 4 -

sometimes 3. Hind toe when present, long

Neck fringed with downy, resemble young of
some Rallies. Ground layer of forest. Fly 500-1000 yds

Distr. Out: Neotropical only.

Habitat: Low forests, some open country,
hills, mountains. From Mexico to the

shrub. Polygamy 1 male & 2 females

Incubation: 14 days. Both parents incubate the Nest
in the under bush. Only incubates

Eggs: 1-2. Both parents incubate. ^{predom.} _{predom.}
various colors, plumbeous, green, chocolate.

Furcula present, well developed

Order Gaviformes

Fam: Gaviidae - Divers (Loons - U.S.)

Character - Hallux on level with other toes

Front toes united by web - tail short, stiff

Foot propelled diving birds - Plumage harsh
not soft - fur-like ^{Young not striped}
only distally (feet) relates to Gulls

Distribution - Northern hemisphere - Holarctic -
Circumpolar

Habitat: Lakes in both forested, plain or mountain
country. Very hard ground to sea (marinel)

Habits: Very rapid dive - swimming - efficient
in any submerge like sub. with head up only
Essentially birds of open water. Flight swift
direct - excellent maneuvering

Nesting (generally) among hummocks in
or near water. Eggs - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 21 - 22 - 23 - 24 - 25 - 26 - 27 - 28 - 29 - 30 - 31 - 32 - 33 - 34 - 35 - 36 - 37 - 38 - 39 - 40 - 41 - 42 - 43 - 44 - 45 - 46 - 47 - 48 - 49 - 50 - 51 - 52 - 53 - 54 - 55 - 56 - 57 - 58 - 59 - 60 - 61 - 62 - 63 - 64 - 65 - 66 - 67 - 68 - 69 - 70 - 71 - 72 - 73 - 74 - 75 - 76 - 77 - 78 - 79 - 80 - 81 - 82 - 83 - 84 - 85 - 86 - 87 - 88 - 89 - 90 - 91 - 92 - 93 - 94 - 95 - 96 - 97 - 98 - 99 - 100 - 101 - 102 - 103 - 104 - 105 - 106 - 107 - 108 - 109 - 110 - 111 - 112 - 113 - 114 - 115 - 116 - 117 - 118 - 119 - 120 - 121 - 122 - 123 - 124 - 125 - 126 - 127 - 128 - 129 - 130 - 131 - 132 - 133 - 134 - 135 - 136 - 137 - 138 - 139 - 140 - 141 - 142 - 143 - 144 - 145 - 146 - 147 - 148 - 149 - 150 - 151 - 152 - 153 - 154 - 155 - 156 - 157 - 158 - 159 - 160 - 161 - 162 - 163 - 164 - 165 - 166 - 167 - 168 - 169 - 170 - 171 - 172 - 173 - 174 - 175 - 176 - 177 - 178 - 179 - 180 - 181 - 182 - 183 - 184 - 185 - 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Voice - Louping-like (call - low - tone)

Order Columbiformes / Fam Columbidae

Character - Hallux above level of other toes

Feet - large - not webbed - Foot propelled
diving birds - Plumage soft - fur-like

belly feathers characteristic macroscopic
structure - same with apart - radii base sparsely
white - Young more or less striped black &
white

Distrib. - more or less throughout world and especially
genera - confined N. & S. America

Habitat - Lakes, rivers, etc. may also occur

Habits - Adapted for diving - floating nests
water and wood - fly little generally

Food - water, insects, mollusks, fish

Reproduction - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 21 - 22 - 23 - 24 - 25 - 26 - 27 - 28 - 29 - 30 - 31 - 32 - 33 - 34 - 35 - 36 - 37 - 38 - 39 - 40 - 41 - 42 - 43 - 44 - 45 - 46 - 47 - 48 - 49 - 50 - 51 - 52 - 53 - 54 - 55 - 56 - 57 - 58 - 59 - 60 - 61 - 62 - 63 - 64 - 65 - 66 - 67 - 68 - 69 - 70 - 71 - 72 - 73 - 74 - 75 - 76 - 77 - 78 - 79 - 80 - 81 - 82 - 83 - 84 - 85 - 86 - 87 - 88 - 89 - 90 - 91 - 92 - 93 - 94 - 95 - 96 - 97 - 98 - 99 - 100

Voice - harsh, throaty notes

Order Procellariiformes: Albatrosses

Fam: Diomedidae: Albatrosses

Char. Nostrils lateral - separated by wide skin

2 Natural groups: 1 Bonin 2 Phoebastria

or Footy alb. → long tail - curved.

Distribution also widespread in belt of winter
Tuberculate characters = sulcus - dividing lateral
plate. Lower mandible. Oil discharges through
nasal pits (nostrils) - source of information, Murphy

Distrib: 13 Sp. 9 = Temperate & Subantarctic
7 other oceans

D. ierocrata
Waved albatross, Galapagos I. ① → technically equatorial

D. albatrus - Sh-tailed alb. ③ → Nth Pacific

D. immutabilis - Laysan alb.

D. nigripes - Black-footed Alb.

Also Local distribution: ✓✓

most southerly - circumglobal. P. pacifica, P. exulans, D. melanophrys, D. longirostris

imp. sub. antarct. P. pusilla, D. chlorophylla

D. wellsi, D. count, D. eximiosa (sub)

Habits: Generally silent but may be expressive in
song or long & mournful groans - mournful wailing

1 Egg: White, chalky, usually reddish spots.
larger end. N/O breeding season in all. Nth
Pacific too - Sept-Dec. young fed on foot
requiring pin-prick stimulation. Skin - - nest
fed down replaced by feathers.

Inbreeding common - adults feed only in alternate
years. Imm. birds usually diff. plumage from
adults

Order Procellariiformes.

Fam: Pracellorhynchidae Shallowwater Subantarctic

Nasal tubes united, opening forward, separated by septum. Bill tip decurved slightly.

Naso il tube united, opening forward, separated by septum.
Chon. and lce present. Bill tip decurved strongly
mask scent. Oil reaking g. some much as independent gas very

Distribution: whole world but mostly
numerous - southern & equatorial

Habitat - open well-lit area except where
shading

Habits: Semi aquatic to other semi aquatic

Nesting . ^{But} Fulmars, Antarctic Petrel, Puffins, Petrel, Snow Petrels: Nelson's Cliff ledge S.
Guano, holes, burrows, - over rocks etc

Gen. 1 egg - ^{white} long incub. period - rachistrous
young born blind. Both sexes incubate
separately - ~~in~~ ^{after} getting food
retains at night. Young remain in nest
some weeks - downy - fat. $\frac{1}{2}$ Fully-fed
young left - ~~and~~ finally - live on accumulated
fat while young feathers, before leaving. Grant

fat while young. Feathers before leaving.
Food Fish, squids, cuttlefish, ^{hooky} life - scraps. - Giant
Puffin a scavenger, also eat small sea-birds.
Voice usually silent - powerful wails at night - and groans
Owing. Many will move short distances for food - usually
from surface flying to cliffs & down - like it

Fulmars: (3 geog. groups - Fisher "The Fulmar" p 7)

1 Fulmarus glacialisoides (Smith 1840) = RAOU 74 Fulmarus
(Procella) antarctica (Stephens) (Full synonymy Fisher p 474)
= ANTARCTIC FULMAR (Silver Grey Petrel.)
R3: 40. Southern oceans n to 6 S. Hawaii, NZ, Peru ^{Brazil}
Breeding: Antarctic & Sub-Antarctic - Scotland, W. Indies, W. Mexico.

2. Fulmarus glacialis rogersii Cassin 1862: Pacific Fulmar.
Synonymy F.W.S. 1470: Breeds Nth. Pacific 46°-61° (possible, 12)

3. Fulmarus glacialis glacialis (L. 1761): ATLANTIC Fulmar
(Synonymy Fishes p. 473) Boes & s. Atlantic & Arctic

Shearwaters & Petrels (Alexander: 35 Petrels, 18 Shearwaters)

Prions: Pachyptila: 6 sp. Sthen Ocean - Ant. - sub. - n. - north
 8 sub. - 1 sp. common in flocks - Swift flying (White body -
 dark wings). To some extent tolerable for the Lomellae
 on both sides of the island.

Order Procellariiformes

Fam. Halobatidae (Storm Petrels)

(Thalassidromidae)

Smallish sea birds. Species. - hook bill,
 narrow ended in single hook opening. Feet reticulate
scutellate or hooked. Toes webbed. Eggs often long
tube usually square or forked. Most dusky. few grey
some with white line on the back. All with legs
& bill black. Sometimes short legged form
grouped with other petrels - but considered alone (Alexander)

Distrib. North & Southern Hemisphere. Pacific, Atlantic & Antarctic & Iceland & Magellan.

Habits: congregates on small islands around year -
make tunnels or use rocks below burrows etc.
Before egg laid both birds - burrows - then later uses
5 - chute: Egg 1. white, oval - partly often marked
with red, purple, black spots.
Neatly 6 - covered - left after will fed - follows
parent & all when feathers develop.
Neatly in habit - on breeding grounds other other black -
silent etc.

Flight: after patting water with feet - spring from
surface while they are in the air - glide -
sometimes alternate up - right water - flutter like
the land up and down flutters. but no evidence of this

Migration - Wilson's S.P. (Oceanus, velantus - birds
antarectica - migrate to Labrador, Britain

Colors: Mainly or entirely sooty black: { Halocyston
Oceanodroma
Neomefania
Nesofregatta

2. As above but with white ump: { Hydrobat
Oceanodroma
Oceanus

3. Mainly or entirely sooty black
above - largely white below: { Oceanodroma
Nesofregatta
Fregatta

4. Partly or entirely grey above;
Grey or partly entirely white below: { Oceanodroma
Gorrodia
Pelagodroma

Also called Mother Carey's Chickens - Mother Carey =
corruption of water cara - British Virgin Island.

Order Procellariiformes

Form: Pelecanoididae - diving Petrels

Homogenus 3, ...
Characters: Bill with nostrils separate - open directly upwards - plane of opening horizontal. No hind toe.
Distinctible throat patch. In Sth Hemisphere: biological
analogues = 3 and 4, murrelets (Hicidae) & gulls.

Distribution Remarkable & only within hemisphere

b Between 35°S & 55°S range from Sth Amer
through Sth Atlantic & Indian Oceans to Austral
NZ. - but not in some hot-pools - Sth Pacific
and Africa - Peruvian D.P. (P. garrothi) range
to Hapies west of Sth Amer - west Humboldt
current.

Habits: More frequent near wash & bathing
islands. Singly or flocks. Dive 10-100 ft.
fish, crustaceans etc. Rapid swift-like
flight straight. Use short wings under
water as if flying. Sometimes emerge for
water flying - fly through a wave

Breeding: Subterranean - under rocks.
Eggs 1 - white. Nocturnal while
breeding. One long incubation - day
time. Voice little - croak & mew
when breeding.

Breeding range:

P. urinatrix: Common D.P.: Falkland, T. de Canby,
Gough I., Bass St., N.Z.

P. georgicus: Georgia D.P. Kerg. ? Heard ? Macq.?

P. magellanicus: Magellan D.P.: South of Magellan

P. garrothi: Isth. Sth Am. coast

Sp. 4. (Genus)

(Frigate birds, semi-palmated)

Order: *Telecani formes*

Tropic Birds
Pelicans, Frigate-
birds
etc.

Fam: Phaethontidae: Tropic Birds (Booby-like)

Char: Bill pointed - central tail feathers elongated.
hind toe very small - cutting edges of
mandibles serrated. tarsus very short.
long tail feathers grow in both sexes & often longer
in second year.

Distrib: All tropical & sub-tropical seas. (Olivier.)

Habits: High soar - fly with quick strong beats
diff. from other sea birds - rocks like Pigeons

Feeding: Plunges into sea from up to 50 feet
for fish, squid. Voice shrill - harsh.

Breeding: somewhat gregarious - rookery described
islands - some rock, soil, coral cliff mostly
of the beach. Egg: 1. white, yellowish reddish
iris colour, streaked reddish brown - purplish blue

Young: cheeks whitish down

Immature: all species; under black above

Do not often settle on water - float long - with claws

3 Sp.

P. aethereus. Red-billed: distinguished by red bill - white
feet. Pacific, Atlantic, Indian
oceans.

P. lepturus: White-tailed: S. tropic, Indian

P. rubricauda: Red-tailed: distinguished by red tail
feathers.
Indo-Pacific Ocean, southern

Called Boobies - because "carry a nation" -
spoke in tail

Order: Pelecaniformes

Fam: Pelecanidae Pelicans

Char: Bill elongate - strongly hooked nail. - large gular pouch. Wings large and short. Tarsi articulate

Distrib: Tropical & temperate regions - all 200 yos
but not temperate of Sth Amer.

Habitat: Fresh water, etc. estuaries visiting sea coasts occasionally
b. The Brown & Chilean Pelicans entirely marine.

Habits: Variable, some form flock formation - float high in water.

Feeding: May form line & drive fish to shallows

N/B Brown & Chilean sp. only divide from height with wings almost closed - may remain under several seconds - usually waggles tail first

Nesting: colonies - usually on islands - lakes or sea coasts. nests may be hollows with ring of sticks - or roughly constructed sticks & twigs - may be placed on low bush or tree - also on ground & varies according to situation note down by species

Eggs: 2-4. large - bluish white - chalky. young hatched head - in fresh to feed

birds take several years to mature - at least in tropics app. immatures only some individuals breed early - any others -

Colors:

Plumage white - juvenile, black.

Brown - white - P. (NH Am) P. erythrorhynchos

Eastern white (American) European - Black

Pink-backed - (Aethya) (Carpodacus)

Dominion (Carpodacus) European and Asian

Bend. P. A & N. G.

Plumage Gray: (P. penns.)

Black Chin (Molaya)

Plumage brown

Brown P. (occidentalis) Trop. Amer.

Chilean P. (Thalasseus) Peru, Chile

Help:

... ..

And. P. differs from all others - having bare skin to eye completely surrounded by feathers

Order: Pelecaniformes

Fam: Phalacrocoracidae: Cormorants.

Chap: 4 toes webbed, tibia & pouch small, bill laterally compressed hooked at tip - tarsus reticulate. Feathers are longest when decreasing regularly. Tail wedge shaped - plumage not as dense as penguins. Feathers - need for diving?

Distribution: all parts of world except central pacific. Interpellica - chiefly tropic. Imperial - Specially numerous - like Nannophorus N/B All cormorants of Nth Am. black - but south many have white underparts. Also the common cormorant black - Europe Asia & Am. - white under in Africa & some / extends to sub-antarctic.

Habits: Fish-eating, piscivorous, piscivores. Dive from surface. Many jump out of water to do it. Use feet for propulsion. In deep water may use wing also. Common cormorant employed - 2 birds often with only 1 with food.

Habitat: Same as exclusively marine. Common mainly coastal zone & freshwater. Lakes etc.

Habits: mostly sociable. Breed - colonial - on grassy islands, on cliff ledges, in trees. Shells nests - better, otherwise clawed as young.

Eggs: 2, 3-4 - elongate pale blue.

Young: very valuable - this regard. Eggs: 2, 3-4 - elongate pale blue. Young hatched naked under shiny covering. Young hatched naked. Young usually brownish. (Big, large)

Adornments: most with some feathers - chest, bars on wings, planks, back.

Names: cormorant & shag interchangeable except that shag where applied to 2 species.

Sp. 30 (mostly marine).

1 P. carbo: Common cormorant - one black corm. N Am, Eur.

Africa Asia Aust. NZ.

2 P. capillatus goff. Wm: clawed for eating food. Wings reduced - no heel - cannot fly - waddle on land - body upright.

3 N/B Nannophorus harrisi: Flightless corm.: Gulph Wings reduced - no heel - cannot fly - waddle on land - body upright.

4 Grey cormorant: 3 spp. Wings reduced - no heel - cannot fly - waddle on land - body upright.

Note 3 genera - Alexander & Peters: Phalacrocorax, Haliastur (4 little cormorants) Nannophorus.

N/B Crests present - Puckler Do. Shag.

Order Pelecaniformes

Fam: Anhingidae: Snake-birds, bit. 188

Char: Bill straight - no hooked tip. Cervical vertebrae articulated & produce curve in neck muscular mechanism such that it can suddenly straighten it - transfixes flesh with bill.

Distrib: Heteropneustes (South) India - 2 sp, Aust. Reg (acc. to NZ) tropical & sub-trop. America

^{2 sp}
Peter: 4 sp. Mayr, = 1 sp. Phronoma, says: 5 sp.

Habitat: almost exclusively freshwater like a ^{new} Alcedo

Habits: Feed entirely under water. Dives, sometimes lake, fish, bottom mandibles (Pneust + vent) often impales fish & then dives - A of ft. Propelled by feet

Notes: High nests - tree. Eggs. 3-4 greenish white in color.
Called water-Turkey - America

Order Pelecaniformes

Fam: Fregatidae: Frigate-Birds (Man o-war birds)

Char: 100% webbed but webbing highly compressible - bill long - both mandible - strongly hooked at tip - long webbed tail. Monophyletic

Spp. Peter: 8 sp. Mayr, 18 sp. 5... large gular pouch (all lives). Feathers short - feathered.

Distrib: Tropical & subtropical world but 2 sp. America - none

Habits: not completely aerial predator bird - perhaps fall birds except turtle. Spent day in air - nocturnal night: hunt & prey on coast. In some Pacific islands (some at least) feed like penguins - & on 5 or 6 or 7 (Alexander)

Purau common. Dulls. Thus - force them to stop as winged fish caught - back may mean wing it or produce. Purau catches prey below it. Thus called Frigate as Man o' War birds by early sailors. Do not settle on water o' land

Vocal usually at night - harsh grating ends at times.

Bird: Colorless. Prop. island. Nest chimney, thick structure. Fresh, rock. Have to protect young from own species. Do not fly with island. Egg - 1 - white thick naked. Very Deming & large. The 2 diff. col. except Ascension F.B.

Ascension F.B.: Fregata - Ascension Id. Christmas F.B.: Fregata - Christmas I.

F. minor: (small Frigate B.S.) } (West)

F. magnificens magnif. F.B. } (East)

F. ariel lesser F.B. } (Aust)

Order: Ciconiiformes: Herons, Storks, ^{allies.} 18
(ways & Amazon arrange order differently)

Fam: Ardeidae: Herons, Egrets, Bitterns.

Char: Bill straight pointed, notched, or hooked, but broad basal web, obsolete at base of inner toe - powder down patches - Great Space Bone - mud claw pectinate.

Distrib: Throughout world continents.

Locality: marsh & wading birds. Heads retracted onto shoulder in flight. Colors very grey, white, blackish, brown. Habits crepuscular - Nycticorax. Nape much plumbeous - some.

Order Ciconiiformes.

Fam: Cochleariidae: Boat-billed Herons.

Char: Bill very broad - gape shortened.

See p. 191. Newton's "Mexican Birds".

A/B Mayr & Amadon place it in Ardeidae & certainly

looks simply like a modified night heron - but Wetmore claims more peculiarities in osteology. very long wing, but 4 powder down tracks only 2-3 - Ardeidae - thus he believes separate family justified. See also cat. Birds, pike and. p. 1, No. 2. p. 238.

Distrib: Neotropical Mexico - Brazil -

Bolivia - Nth Argentina.

nothing for Son. Lake B.



Order Ciconiiformes

Fam: Balaenicipitidae: Whale-headed Storks

Char: Culmen flattened & grooved broad at base of
forehead - narrowing towards end - distinct
dental hook 2 powerful claws - pointed.
- lower bare - no web at base of inner &
outer toe. 1 species.

(Many places with Ciconiidae)

Dist: South Africa, India, Madagascar,
Malaya, Java, Philippines.

Habits: Slope-shaped bill nearly as broad as long,
sexes equal. Hides by day, feeds in
evening. Stands with bill on breast.
In flight head bent back like heron (Pelecaniformes)

Nest: Flattened grass on dry land.

Eggs 1-2 - dull white chalky, few
much stained.

Foot: 4

Voice: hooting; clanging: Rattle bill like stork
(Pelecaniformes) snaps



also called Boo bird, Sloe-bill

Order: Ciconiiformes

Fam: Scopidae: Hammerheads (Hammerkop)

Char: Culmen narrow midly, dental hook, no
snail, down, pointed, webbed, notched web
base of lower jaw, no web, toe... all legs on legs
at separate

Distrib: Entire Ethiopian region. 1 species

side dist. - young season. Call: Shill (loud)

Char: Name derives from appearance of bill when rest, bill
much from hammerhead of a fish.

Curious legend: Native believe that the bird is

soot black. Shuffle feet in water to disturb foot

Flight neck not move, slight back like swan
semi-vertical. Owl-like flight

Nest known as - tall, mostly sticks -

outside decorated with various material. Small
entrance hole with edge-plaited with mud
choppy reveals 4 months incubated. Eggs 3 & white



Order Ciconiiformes

Fam: Threskiornithidae: Ibiss, Spoonbills

Char: Bill much decurved or flattened & spoon-shaped.

Distrib: Ethiopia, Pol., Nearct. Neotrop. Ind., Aust. (S. & N.)
mostly temp. regions with hemisphere

(Platalla - spoonbills Europe, Africa Asia occasional)
(28 spp. altogether, many)

Habitat: open water, grassland, lake, etc.

Notes: Both groups very bright - colours.

Both have a beak in head bill.

Scaup Ibis: Guara rubra (L.) Trop. Sth. Amer. - casual
in West Indies, recent America

Order: Ciconiiformes

many birds in water

Fam: Phoenicopteridae: Flamingos

Char: Very long slender legs long neck (18-24 x 2nd vert.)
bill extremely long - middle - both mandibles with (small)
lamellae - fleshy, tongue thick. Hind toe small or
absent - fore-toe webbed (increased) rudimentary
copulatory organ, high development of down
N.B. Swims freely when necessary (Palm Springs)

Distrib: Pol, Ethiopia, Neotrop. (occasional) Neotrop.

Spp. 6 many. 3 genera Phoenicopterus Phoenicoparus
mainly tropical birds Phoenicoparus

Soil - marsh bank water, fresh water.

Food - water

Habits Very gregarious. birds with bill hanging
in water, head mostly or wholly immersed

Nest: nest open above water level (Palm Springs)
2 white eggs

Voice: Hoarse like goose.

Order: Anseriformes: Screamers, Ducks 19
Geese & swans.

Fam: Anhimidae Screamers

Char: Bill gillaceous reddened by webbed -
front toes, 2 spurs on each wing - difference one
longer, 1 horn - 1 spur.

Distrib: Neotrop. region only.

Spp - 3.

Habitat: Swampy regions - by nature wetlands

Habits: L. & W. ... Food: water plants

Nests - nests - 5 eggs. Cambridge Noted: Buff,
white, 4-6.

Order Anseriformes: Ducks

Fam: Anatidae: Ducks, Geese, swans.

Char: Antenna web fully webbed - you - on the
large fleshy bill gen. broad - flattened - sometimes be-
point. It's with large spread penis. Monogamous
- nest rough, egg - numerous young, buff, greenish
white pure white - young down covered - adult hen or
swan at once.

Distrib: Fam. by fully cosmopolitan.

Genus: 1. Geese & swans: Branta, Anser, Cygnus, Corcorax.

2. Whistling (Tree) Ducks: Dendrocygna.

3. Shelducks: Lophonetta, Tadorna, Alopecurus, Nettastus,
Cyanochen, Chloephaga, Tachyeres.

4. River ducks: Anas, [Hymenocorpus, Melacorhynchus,
Rallodessa, Stictonetta].

5. Pochards: Netta, Aythya

6. Perching ducks: Amazonetta, Chenonetta, Hix,
Nettion, Sarkidiornis, Cairina,
Plectropterus, Anseranas.

7. Sea Ducks: Somateria, Camptorhynchus,
Melanitta, Histrionicus, Clangula,
Bucephala, Mergus.

8. Stiff-tailed Ducks: Xyura, Bizia, Thalassornis,
Heteronetta.

9. Torrent Ducks: Mergonetta.

Anserini: Swans & Geese: (Swans differ only - large
large, shaggy, longer necks, more ventral). Sexes similar,
♀ higher voice, no metallic colors, young young without
strong pattern, adult male display, simple, seem to
live for life, ♀ usually ^{from 1st year} monogamous, 3-5 yr sex maturity,
only 1 annual moult - no large plumage - that
mainly on feet - graze on vegetable food
closely knit - family life - a unit until next
season.

scrota two: coscoroba coscoroba White, brown
like but long legs - like a large red like whistling duck.
Young like a cygnet. Seems to be ant between
swan goose & a what of ducks.
Habit: Sth America

Dendrocygini: Whistling ducks: Little brown young
mixed plumage. Both sexes one young, sexes alike,
no reliable colors, posture-like postures & display -
vegetable food - nest usually just, open. - holes - trees. Sth
America - high but not upland, near India, then
and America.

Tadornini: Shelducks. Not far from river ducks.
Impassioned near blower to quack - short bell
long long sexes alike as diff. voice. Prey very diff, some
water and ground. Eggs small some species have
swooshing but to have. Cheopar: sup 13.

Anatini: River Ducks. surface-pudding ducks. Smaller, pointed
tail, waddling walk, egg-shaped feet. 2 months perennium
some sex dimorph. most fresh water some go to sea some
live in shallow water but "upland" display
follows common pattern requires elaboration

Blue Duck N.Z. abundant

Pink eared Duck

Pink-headed Duck

Fr. Duck

Aythia Aythini: Poached - Fresh water diving
ducks - sh. heavy body - display diff

Cairini: Perching ducks. Peewee - young more
one - like the others most nest in tree holes. -
forest ducks. Young able to climb.
And this sense to latently live, kenonetta too
massey ducks Cairina moschata here.

Mergini and Ardeini: all great divers spend
much time at sea - bill strong hooked hard
nest - trees, caves, rocks, etc. - pen silent

Oxyurini: Stiff-tailed Ducks. No apparent connection
with other, irregular in color and water well
with salt. - very long at brown duck eggs.

Merganetini

Mercent Ducks. Iron ends 1 sp. small duck,
narrow bill spots on bend of wing - live along
rapid mountain streams - live little know
at again the arnata.

Order Falconiformes Vultures, Hawks, Falcons.

Family: Cathartidae : New World Vultures.

Char. Anterior nostrils - but not posterior. Hair
traces a rowing - no true feathers on head.
Nostrils perforated := aperture exposed.

Distrib. : Tropical Amer. & N. Amer. & Europe.

5 spp. Hellmayer.

Char. - Claws comparatively small
& blunt. - ~~conspicuous~~ plumage

Vultur gryphus L. Condor.

Sarcocampylus gracilis L. Condor.

Cathartes aura : Turkey, Vulture.

22 Order Falconiformes:

Fam: Sagittariidae: Secretarybirds

Char: long legs, sh. toes, claws, multiple
ventral toes Sagittarius serpentarius

Distrib: trop & subtropical Sp.

Habitat: open country

Feas: long, broad stamp with foot - bills great
large under - widely protected

Nest: large - shrub, - by bush or tree

Eggs: 2-3 white, smooth, streaked with brown

Food: snake, other reptiles, large insects
- young birds, eggs.

Order Falconiformes

23

Fam: Accipitridae: Hawks, Old World
Vultures, Harriers

Vultures. Eagle like - robust & short on postphes

Dist: Palaearctic, Indian, Ethiopian

Char: Vivid light, carmine feathers
Hooded head. Head bare, carmine crest.
Eggs white to heavy reddish brown

Griffon Vulture: Gyps fulvus:

Spain, Greece & elsewhere
very E. Eur. abundant - common



Black Vulture: egypcius monachus?
Spain. Greece &
east

like above but
black head, shoulders

Bearded Vulture or Lammergeyer: Gypaetus
barbatulus

Range very like the Black Vult.

Note bare ch. of black beakles
below bill



Eagles: hooked bills - strong, heads with
larger than vultures - most prominent
some carmine

Note number of eagles - eg Ethiopian - Fish eagle
like this - black & red & white

Bald Eagle with Arrow: Haliaeetus leucocephalus

National Emblem - since 1782. white head & tail

Monkey-eating Eagle Pitheoprogna pifferyi

1 Sp. confined to Philippine - male eagle
high arched bill - feeds on monkeys
not on large mammals

Buzzards. Swallowing,

Hawks ~~black~~ & rounded wings long tails
 - ~~black~~ brown on - feet

Wings long wings elegant flight

~~Parrot~~
Falcon swift like long

Falcon swift wings swift strong, precise

Order Falconiformes

Fam. Pandionidae Ospreys

Char. Bill is reversible for infrequent
Feet studded with horny spines.
Whole pale & dark barred, ~~barred~~.

Distrib.: Whole pale & dark barred, but very exact
the parts of the underparts.

Characteristics: Max. Probs. that say plunge head
downwards to work, the feet; later on legs
plunge, just over F

Food: Fish, frogs, water & all.

Nest: Very large - built on ground

26 Order: Falconiformes

Fam: Falconidae: Falcons, Cercoptas

Falcons: Not always clear cut some intermediate

Typical falcon: hooked wings, notched tail.

Falconet (Pygmy or French Falcon,) whispering

Indian Kites (Tropical area.)

Feed mostly insect, small, small birds -
small nesting

Caracaras (Caracara) (Caracara) - name Caracara
Sul Nch ich America

Melomys

Cha Falcon like - 5 feet long in front,
Cathartidae - but not Cathartidae
giganticus, several species

Wood - Tree - nest built with
wood - eggs 2-3 mm
and blackish



28 Order Galliformes Megapodidae
Curassows
Phalaropes
Hoatzins

Fam: Megapodiidae Megapodidae

Char ^{Hammers head with other} del young under legs - more
raised by one or more pairs of legs
young hatched fully fractured without
inherent parent - able to fly almost
from birth standing on level of other legs.

Dist Isle of Pacific NH to Philippines
like to be at least to Northern west
to Nebraska etc. (Hawaii Is.)

Megapodidae Widespread through

Dist Pacific Isles - 2nd to aural region.

Curassows simple in plumage - many
subspecies

Curassows Mexico

Curassows Hawaii

Curassows Hawaii

Curassows - NG Is.

Curassows Hawaii

Order Galliformes.

29

Fam: Cracidae: Curassows, Guans
Chachalaca.

Char: all glass tipped, antennae - see
eggs - white, incubation period
diff - habit - habitat - food

Curassows: Cra spp.

Dist: Cent. & S. America. (Chachalaca)

Char Fowl-like. Long tailed, (some) crested heads.

- many species, arboreal, live often alone

- some gregarious

Habitat: open & ?

Food: Fruit

Not cattle, sheep

Chachalaca: (Oreotyrax) near N. Am.

- name from call "chachalaca"

Colours: Various. Some green and red.

Faisan Real: great curassow, very resembling.

Some show lameness, injury

Guans, Antelope, are all if not the same name.

Dist and habitat different

Both similar - some have beaks

30. Order Galliformes

Fam: Tetraonidae: Grouse

Char. Tarsus above level, other toes
vestigial or wholly, rami & toes reduced,
reduced or only vestigial feathers or only
upper half plumbeous. Bill of 1st
premaxilla - long
NO Spurs on tarsal crite. sex

D-it Nth Hemisphere

Black-grouse - Blackcock (12-8) ♀ - greyish

Grouse Red Grouse - more found in England

Partridge Partridge & Quail

Capercaille Partridge - not - E Asia
- coniferous forests

Prairie chicken

Long Hen

Partridge

Order Galliformes

31

Fam. Phasianitae quails, pheasants, Peacocks.

Char: Nostrils never hidden by feathers.
Tarsus partly or entirely naked - often armed with spurs. - Uropygial present.

Dist: Almost cosmopolitan

Gen: Widespread - many migratory;
Some American form pass - Am. - Western.

Pheasant: ♂ highly specialized 1 ann. plumage large
size 10. Invol. genera (allacina)
Asia, Malaysia, Europe. 2nd. Peafowls.
Trionyx & aphia rather - (Partridge-like)
Partridge some young. Europe Asia not
not so large.

Francolin - Family parties. Localities -
near water - some stay in flocks, some feed
at night. Run rapidly. Fly little,
all birds have long, pointed, and like
nest like Partridge 6-14 eggs -
buff spotted. Gen - Dist - Europe -
in Asia

32 Order Galliformes

Fam: Numididae. Guinea fowl

key: Crested or helmeted. Black spotted
white. Pale wattle. no spur. Hall's present

~~to be used as domestic bird~~

Dist: Africa Madagascar

sub: may be gregarious at times

Order Galliformes

Fam.: Meleagrididae Turkeys

Char.: They have much naked caruncles
 ♂ + ♀

Dist.: N. H. i. Ant. Amer. Mexico, Central Am.
 South Am. West Ind. Islands.

Habits: Bud. & woodlands - flock - non-
 breeding season. otherwise like domestic
 birds.

34 Order Galliformes

Fam: Opisthocomidae: Hoatzins

Char.: Nallex very long, and very small
mormore. crop. Young talon is naked
pallx index right provided with claws
enabling climbing also with the same of same

Best Am. young - poet

Nest stick, one & note.

N/B crop & mangroves - 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180, 185, 190, 195, 200, 205, 210, 215, 220, 225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 285, 290, 295, 300, 305, 310, 315, 320, 325, 330, 335, 340, 345, 350, 355, 360, 365, 370, 375, 380, 385, 390, 395, 400, 405, 410, 415, 420, 425, 430, 435, 440, 445, 450, 455, 460, 465, 470, 475, 480, 485, 490, 495, 500, 505, 510, 515, 520, 525, 530, 535, 540, 545, 550, 555, 560, 565, 570, 575, 580, 585, 590, 595, 600, 605, 610, 615, 620, 625, 630, 635, 640, 645, 650, 655, 660, 665, 670, 675, 680, 685, 690, 695, 700, 705, 710, 715, 720, 725, 730, 735, 740, 745, 750, 755, 760, 765, 770, 775, 780, 785, 790, 795, 800, 805, 810, 815, 820, 825, 830, 835, 840, 845, 850, 855, 860, 865, 870, 875, 880, 885, 890, 895, 900, 905, 910, 915, 920, 925, 930, 935, 940, 945, 950, 955, 960, 965, 970, 975, 980, 985, 990, 995, 1000, 1005, 1010, 1015, 1020, 1025, 1030, 1035, 1040, 1045, 1050, 1055, 1060, 1065, 1070, 1075, 1080, 1085, 1090, 1095, 1100, 1105, 1110, 1115, 1120, 1125, 1130, 1135, 1140, 1145, 1150, 1155, 1160, 1165, 1170, 1175, 1180, 1185, 1190, 1195, 1200, 1205, 1210, 1215, 1220, 1225, 1230, 1235, 1240, 1245, 1250, 1255, 1260, 1265, 1270, 1275, 1280, 1285, 1290, 1295, 1300, 1305, 1310, 1315, 1320, 1325, 1330, 1335, 1340, 1345, 1350, 1355, 1360, 1365, 1370, 1375, 1380, 1385, 1390, 1395, 1400, 1405, 1410, 1415, 1420, 1425, 1430, 1435, 1440, 1445, 1450, 1455, 1460, 1465, 1470, 1475, 1480, 1485, 1490, 1495, 1500, 1505, 1510, 1515, 1520, 1525, 1530, 1535, 1540, 1545, 1550, 1555, 1560, 1565, 1570, 1575, 1580, 1585, 1590, 1595, 1600, 1605, 1610, 1615, 1620, 1625, 1630, 1635, 1640, 1645, 1650, 1655, 1660, 1665, 1670, 1675, 1680, 1685, 1690, 1695, 1700, 1705, 1710, 1715, 1720, 1725, 1730, 1735, 1740, 1745, 1750, 1755, 1760, 1765, 1770, 1775, 1780, 1785, 1790, 1795, 1800, 1805, 1810, 1815, 1820, 1825, 1830, 1835, 1840, 1845, 1850, 1855, 1860, 1865, 1870, 1875, 1880, 1885, 1890, 1895, 1900, 1905, 1910, 1915, 1920, 1925, 1930, 1935, 1940, 1945, 1950, 1955, 1960, 1965, 1970, 1975, 1980, 1985, 1990, 1995, 2000, 2005, 2010, 2015, 2020, 2025, 2030, 2035, 2040, 2045, 2050, 2055, 2060, 2065, 2070, 2075, 2080, 2085, 2090, 2095, 2100, 2105, 2110, 2115, 2120, 2125, 2130, 2135, 2140, 2145, 2150, 2155, 2160, 2165, 2170, 2175, 2180, 2185, 2190, 2195, 2200, 2205, 2210, 2215, 2220, 2225, 2230, 2235, 2240, 2245, 2250, 2255, 2260, 2265, 2270, 2275, 2280, 2285, 2290, 2295, 2300, 2305, 2310, 2315, 2320, 2325, 2330, 2335, 2340, 2345, 2350, 2355, 2360, 2365, 2370, 2375, 2380, 2385, 2390, 2395, 2400, 2405, 2410, 2415, 2420, 2425, 2430, 2435, 2440, 2445, 2450, 2455, 2460, 2465, 2470, 2475, 2480, 2485, 2490, 2495, 2500, 2505, 2510, 2515, 2520, 2525, 2530, 2535, 2540, 2545, 2550, 2555, 2560, 2565, 2570, 2575, 2580, 2585, 2590, 2595, 2600, 2605, 2610, 2615, 2620, 2625, 2630, 2635, 2640, 2645, 2650, 2655, 2660, 2665, 2670, 2675, 2680, 2685, 2690, 2695, 2700, 2705, 2710, 2715, 2720, 2725, 2730, 2735, 2740, 2745, 2750, 2755, 2760, 2765, 2770, 2775, 2780, 2785, 2790, 2795, 2800, 2805, 2810, 2815, 2820, 2825, 2830, 2835, 2840, 2845, 2850, 2855, 2860, 2865, 2870, 2875, 2880, 2885, 2890, 2895, 2900, 2905, 2910, 2915, 2920, 2925, 2930, 2935, 2940, 2945, 2950, 2955, 2960, 2965, 2970, 2975, 2980, 2985, 2990, 2995, 3000, 3005, 3010, 3015, 3020, 3025, 3030, 3035, 3040, 3045, 3050, 3055, 3060, 3065, 3070, 3075, 3080, 3085, 3090, 3095, 3100, 3105, 3110, 3115, 3120, 3125, 3130, 3135, 3140, 3145, 3150, 3155, 3160, 3165, 3170, 3175, 3180, 3185, 3190, 3195, 3200, 3205, 3210, 3215, 3220, 3225, 3230, 3235, 3240, 3245, 3250, 3255, 3260, 3265, 3270, 3275, 3280, 3285, 3290, 3295, 3300, 3305, 3310, 3315, 3320, 3325, 3330, 3335, 3340, 3345, 3350, 3355, 3360, 3365, 3370, 3375, 3380, 3385, 3390, 3395, 3400, 3405, 3410, 3415, 3420, 3425, 3430, 3435, 3440, 3445, 3450, 3455, 3460, 3465, 3470, 3475, 3480, 3485, 3490, 3495, 3500, 3505, 3510, 3515, 3520, 3525, 3530, 3535, 3540, 3545, 3550, 3555, 3560, 3565, 3570, 3575, 3580, 3585, 3

4. 1. 1900

Lee Tropical Wild Life - Books Early Home.
- ~~Handwritten~~ ~~unseen~~

Perfect success

W. V. May 1-1917

Order: Gruiformes: Cranes, Rails
+ allies

Fam: Mesomatidae: Cootels and allies.

See S.N.H. p662.

Mesites and allies: not included.

Various Maiguel's originally,

N/B Check ref - then check in
book ing not do

36 Order: Gruid ormes.

Fam: Turnicidae: Bustard Genits.
(Grouse)

Char: many absent - young born
covered with down - able to run soon after
hatching

N/B of larger, plumage lighter, 3 immature
stages - juvenile.
Bill like salicinal. often weaker.

Dist. Ind. Reg, through to Aust. Reg.
Europe. reg. with Europe.

Nesting: slight nest - 1-2 eggs - potted.

Order Gruiformes.

Fam : Pedionomidae Plain-wanderers

char Hallux present

Notes : Hallux present, long diactylaxi,
 14 left caudal, large egg, pipe form
 : sep from Turnicidae

Dist Aust.

38 Order: Gruiformes

Fam: Gruidae: Cranes

Char Stomach grooved, recumbent convolution.
ptinches bill maybe short - usually
grooved on lower mandible. Fly with
neck outstretched, humping, vocal
gregarious, some migratory, perform
stately ceremonial dances in spring.

Dist Kalaharie, Ethiopia, ...
rep. - ant.

Nest: In grass or above water. Eggs: 1-2. chick
Spotted

Habitat: marshes, swamps, plains, fields.

Food: mainly vegetation

Order: Gruiformes.

39

(including *Ardeidae*, *Limnophila*, *Ardeidae*, *Limnophila*)

Family: Ardeidae: Limpkins

Illust S.N.H. p 665.

(Colubian)

Revs: Imperfectly webbed - orange + black.
Like large wail, bill to 4 segments
long + thin, strong

Dist: Voluta. (1 sp. major)

Habitat: Swamps, shallow streams.

Food: molluscs, etc. and life.

Nest: flat among reeds, large, N/B thick
inner but like wail, lay 10-12 white
not spotted like wail.

Habit: solitary or family party - shy -
fly with leg, ~~down~~ downy - slow wing flap.

40 Order: Gruiformes

Fam: Psophiidae . Trumpeters

Chase Bill short . dove-like

Tibia very long . legs short . N.H. 000.
long wattle . (nostril immovably long
males, extending outside abdomen
nearly 5 cm.)



Diet (3 sp. max) . conifer . Nest . shrub

Habitat . Tropical forest

Habits . Form . flock . seldom . fly . run . swiftly

Voice . Deep . ventriloquist . long . wattle

Early . lives . kept . by . Brazil . not . lives
will . take . a . water . N.H.

Nest . small . Eggs . in . light . colour

Order Gruiformes

41

Fam: Rallidae: Rails, Coots, Gallinules

Chas. and various shapes - long - long rails,
short - crabs, deep in Gallinules. Toes
slender & long, sometimes webbed & scalloped.
Hollus always above wing when -
Eggs gen. numerous - cream spotted
Young - low voices - adult more or less -
all adapted to swamp life some adjusted
to trees from S. W. wings short but some
migrate. N/B some flightless.
Nest: some no polian

Weka (Weka): Gallinules eggs: two per
faecal. Eggs with variety pattern - some
Nest under bushes etc. Flightless, confined
N2 reg

Horned Coot Fulica cornuta: Very rare. 8 specimens known 1942
(Chile & Bolivia) - has extraordinarily wattle - builds
Nest of stones on which to place nest - see Index for paper &
Great Goot F. gigantea also rare mentioned - some
illustrations - some
people

N/B See pp 151-2. Vol IV Habb and Arch. Rallina
showed to be separate by some.

42. Order Gruiformes.

Fam: Helionithidae: Sun-grasses.
(Finn 15) S.M.H. 570

Char: Plumage close-set - gen appearance } living
rail - toes scalloped lateral webs. }
Habits } cormorant or meganser - at least

Dist: Edroff 1, Nedroff 1, Ind 1

Habitat: dense under stream

Habits Swamphens will

Ned (p. 1) platp. } mth. 1 a, but
over water.

Order : Graciformes

8

Fam: Rhynochetidae: Kagus.

Char Bill kerow-like length of bill
22 inches. Bill & feet orange-red
Nearly white to tan - bottom

Dist: Confined to New Caledonia. Hapnays.

Habitat: Rocky ravine - sea & water.

Habits: Indulges in highly wasteful
shows vent forward, ~~the~~ spreads wings
etc. runs round, tosses dry leaves,
may hold wing-tip & tail - in
toes molluscs, etc.

Illust ENH. p669.

44. Order: Gruiformes

Fam: Eurypygidae - Sun-bitterns

Chen ~~crassa~~ ~~mod~~ ~~long~~ Bill like sand
- legs like Sceloporus instructa

Nestling phase like - down covered

Spp. 1. many. Bill crane-like

Dial Neotropical

Habitat: wooded swampy parts

Notes: said to be sticks grass mud -

eggs reddish buff. brown am. N.H.

Habits: like, Kege exerts fantastic dance

- spreading wings etc

N/B Apparently - very beautiful bird - bands,
chestnut. red grey white - beautiful markings

on wings. Notes: Not given to sunlight

and like a bird

Order: Gruiformes

75

Fam: Cariamidae ^{Seriamae} Cariam

has Red short neck long legs long
— one? sp. with vent.

Diet: sh. birds:

habitat: campos - plain open grass

Habits Roost - trees

Red Swags - trees - agoutis etc.

sometimes called serama etc. serama etc.

46 Order Gruiformes

Fam: Otididae. Bustard's

char caeca present Bill rather flattened, obtuse,
Nest depression under 1 leafy cover

Egg double spotted. Veering down

able to run soon after birth. Ruminant.
penis, NO testis Ground dweller. ^{also perch}

Diet: Pal, Entomoz. Herb. 22 eggs (large)

Habitat open + low

Notes

Order: Charadriiformes: Shore birds 77
Gulls
Auks.

Fam: Jacaniidae: Jaegers

48 Order: Charadriiformes

Fam: Rostratulidae: Pintail Snipe

Order : Charadriiformes

49

Fam : Haematopodidae : Synsphaerodactylus

50 Order: Charadriiformes

Fam: Charadriidae Plovers Terns
Surfbirds -

52 Order: Charadriiformes

Fam: Scolopacidae: Snipe Woodcock,
Sanderlings.

54. Order Charadriiformes

Fam. Recurvirostridae: Iocets,
Stilts.

Order Charadriiformes

Fam: Phalaropodidae: Phalaropes

56 Order Charadriiformes

Fam: Dramodidae Crested Plover

char. Egg, white. black & white bill
like bird - thick heavy bill, toes partly
webbed - nests - burrows.

dist hatching

Habitat: Sea coast

Habit Flies with neck legs out mechanically

Fam Charadriidae chicks (as in flam)

N/B Nest: In burrow - some - some just
pulling eggs, white venomous

Order: Charadriiformes

57

Fam: Barbiniidae: Thick-knee

58 Order: Charadriiformes

Fam: Glareolidae: Plover

Order: Thimocoridae Charadriiformes 59

Fam: Thimocoridae: Spod Spod

Char but like game birds - feet not webbed,

birds are present for us like. present

dark - plumage like game birds - flight

like plover real - depression - wings

- eggs pale - feathers like - feathers

downy Therap NH 683.

Diet: Spod Ames. Penn to Delaware Del.

Habitat: usually bird country,

Habits Am well, fly like plover.

60 Order: Charadriiformes:

Fam: Charadriidae: Sheath bill's.

Char Bill with complex shape & structure

Feet not webbed (only membrane between toes)
Halter (hind toe) present. Necks - holes on back & neck. Eggs like Charadriidae.

2 sp. max

Dist Extern ^{South} - 1st Amer. & 2nd, 3rd
in Atlantic - Venezuela - ...

Order: Charadriiformes.

61

Fam: Stercorariidae - Skuas Jaegers

Chm Fam toes webbed. - young downy

dark to green brown - strong claws. Head
hooked bills - all on bill. ~~from~~ large space
have short beaks, the small (gargers) - long ridge
shaped bill. with 2 long, central tail feathers

Dist mainly of latitude. ocean, coast

Habits Bird of prey - eating small mammals & insects
ate on land also on water & chase other seabirds
for their food carried by the - Flight gull-like
powerful. 2nd & 3rd tail feathers project in shape.

Nesting : On ground - hollow lined with grass or
moss. Eggs 2-3 spotted brown purple.

Name : Skua from old Norse = keen was
for hunt. Sexes alike.

Parasitic : Colours variation, not pure white & S.
4 species said in the arctic region. 2 Great Skuas & 2 Lesser.
- 2 by race. The 3 smaller species - in group E
Skua term of the during northern winter while
all Skua migrate temp. range of both hemispheres
during winter. - coast of C. Am. S. Am. & B. Am. & B. Am. & B. Am.
Skua - 2 species in arctic Skuas - winter's

Catharacta Skua Skua Brunn. - Great Skua N. Atlantic &

.. .. Lounberg's

Y. S. very abundant -
Southern Skua Eastern Aust.

.. .. McCormick's Intermediate Skua

Plus lists 6 subsp. of C. S. S. - 1 small. 1 large. 1 N. Z. Skua.
1 small. 1 large. 1 small. 1 large. 1 small. 1 large.

Stercorarius pomarinus : Pom. Jaeger in Skua

.. .. parasiticus Parasitic ..

.. .. longicaudus long-tailed ..

} and
with
but
small
long range
to and.

02 Order: Charadriiformes.

Fam: Laridae: Gulls, Terns.

Order: Charadriiformes (scissors bird) 63

Form: Rynchopidae: Skimmers

Char: mandible moves on premax - lower
mand. longer. wings long, tail slt slightly
forked - feet all with deeply indented

Dist. Temp. & trop. regions Nth & Sth Amer.
- trop. Africa - India & Burma (occurs in Canada)

Habit. Lives over water with lower bill
just sub in water for food - fishes, etc.
wings can be spread out & used as

64 Order: Charadriiformes

Form: Alcidae: Arctic Skuas Skuas

Char. Aquatic charadriiformes -
 - diving habits. Confined to salt water -
 short leg. - short bill. Anterior toe
 always - slightly webbed. Bill strong &
 - laterally compressed - sometimes
 curved at tip. No 2 toe - small, hook-like.
 Molt 3 times a year after each breeding season -
 colors change. Eggs large 1-2.
 Some migratory.

Dist: Nth region of north hemisphere

British: Alca spp.

Plautus

Uria

Fregata

Razorbill,

Arctic

Skua

Guillemot

Puffin



USA

(Plautus)

Alca

Uria

Alca

Catharactes

Brachyramphus

Endomyza

Ptychoramphus

others

Fregata

exposed

Arctic

Murre

Guillemot

Guillemot

Murrelet

inlet

Puffin



Order: Columbiformes: Sand-grouse
Pigeons
Doves.

Fam: Scolecophoridae: Sand-grouse
^{never perches}
does only occasional Columbiformes - long
- caeca - slender wing. Eggs rounded
both ends. ^{never perches} Speckled.
Halteres minute, or lost. Drinks both in cups
like game birds & ^{continuous} drinks ^{like} pigeons.
Diat: Pal - Eur. & Asia & Ethioz.

Habitat: Steppe & desert.

Flight rapid



Nest scrape on ground.

Habits: Breeds in great numbers - in steppe & desert
irregular, outwards breeding season.

Appearance: Light col. plumage well, pigeon
head & long pointed wing; skil.

Tripping out on run.

66 Order Columbiformes:

Form: Rabbits: Dodo & Solitaires
consists of

3 extinct species: Dodo, Mauritius
Dodo, Réunion & Solitaire of
Rodrigues

Dodo Immense pigeon like bird bigger
than Turkey - shorter beak & wings
flightless - large bill ending in hook
Plumage dark. Unconcerned
17th C. Believed to inhabit forest,

swallow pebbles - large white egg on ground.

Solitaire: Large dove with slaty

nest on top of tree - large white egg

Fam. Columbidae: Pigeons, Doves

Char. Calca absent or small. Phytophagous,
well developed wing. Bloom on feathers,
- generally strong serrated. Nails - curved.
Toes, ground or light open structure - thin.
Eggs white (yellow in fresh form) nearly
always 2, but sometimes 1. Nearly
all arboreal - few rock dwellers - or terrestrial

Dist. - Cosmopolitan - not Arctic, Subarct.
- Antarctic. (284 spp. major)

Tooth-billed Pigeon or Samoa Pigeon. Red Bird
Didunculus
strigatus

Dist Samoa Is. (Upolu & Savaii)

Powerful winged owl-like or large bill
fleshier around eye red - terrestrial
before fledging much on ground





Order: Psittaciformes. Lorie's
Parrots
means.

69

Fam: Psittacidae: Lorie's Parrot means
~~the~~ Feet ~~are~~ zygodactyl by inversion
of 4th toe. No cerea. yall blood - gen same.

Dist Nestoridae: NZ. only
Loridae ^{ly.} ~~the~~ ^{ly.}

Dist Trop. ~~means~~



Order: Cuculiformes: Plantain-eaters 71

Cuckoos
Road-runners
Pitts

Fam: Muscophagidae: Plantain-eaters.
ToracOS, Touracous

Char Feet semi-zygodactylous. The 4th & outer
we capable pbe - turned back or forward.
Hallux present. strong, hooked
most webbed, long tail, straight cutting bill
2 groups - cursor wing & fly wing

Dist: Conf. to Ethiopian region.

Habit: Woodlands & forests.

N/B cursor cursor & wing.

fields frequent, Touracous containing
coppe & LWH 706. B.M.C. XIX 435.

Habits: Known ones not parasitic
cocoons birds -
mid air.



72 Order: Cuculiformes

Fam. Cuculidae: Cuckoos, Road-runners, etc.
has long ventres; Feet zygodactyl,
cosmopolitan.

Roadrunners : Geococcyx

Dist: Cent. America

Day birds - runs at great speed - comical
 evolutions - catches in air



↑ maybe
 subspecies
 (1 ♀) very
 dark -
 ♂ confere.
 ♂ confere.

Anis notophaga.

has cent America & ch Amer.

74. Order: Strigiformes. Owls
N/B See math. Vol V on anal.
forms

Fam: Tytonidae: Barn Owls

Char Primaries 11 (first much reduced)
(4th & 5th coverts 1st & 2nd reversibly)

Inner toe as long as middle claw, middle
toe much shorter. Cerebral disc heart shaped.

Nearly cosmopolitan

Loosely 1 Order asymmetrical - 12 different
species

Dist: Absent from NZ, Hawaiian Is &
colder regions.

Order: Strigiformes

N/B See Mathews Vol V on Ant
forms

Fam: Strigidae: Owls

(4th digit is reversible)

Char Inner toe much shorter than
middle toe - claw of latter not pectinate
Facial disks more or less round

Dist Absent only from Polynesia

To Order: Caprimulgiformes Diurnal
To albatrosses
To gulls
To petrels

Family: Steatornithidae Diurnal
Guaracha

Char. Resemble podiceps podiceps but
phenom. albatross. bill like albatross.
Eggs white. incub. canes, reparations

Dial: Whitman Guaracha to Alma

Birds killed by natives for oil from body.
for lamps.

Order: Gastropodiformes

27

Fam: Podargidae Frogmouths

78 Order: Caprimulgiformes

Fam: Nyctibiidae: Phalaena

Char: Nyctagala ulm

Dist: Thap. americana melod. jansica

Order Caprimulgiformes

Fam: Aegothelidae: Owllet Frogmouths

80 Order: Caprimulgiformes

Fam: Goatsuckers.

Order: Apodiformes: Swifts, Hummingbirds^{8/}

Fam: Apodidae. Sw: 43

82 Order: Coliiformes: Coliies
Apodiformes.

Fam: Hemiprocridae Crested Swifts
(Tree Swifts)

Supplementary text

has lying down feathers on plants.

elongated incubation or superciliary
stripes on head lines diff (no uniform

on Q? Nest half round dark feather

branch - 1 egg



N/B Nest glued to branch

egg glued with saliva

to nest May SW Pacific
P 78

Dist:

Indra region

Order: Apodiformes

83

Fam: Trochilidae: Hummingbirds

char. large heart, tongue variable tubes extending
far out separately with 2 external lateral sheaths
Eggs always white, 2 in number
flight amazingly rapid, ^{as} contain, curled
wings provide: ^{no} change of position of light

Dist: ^{Canada} extent to S. America

Fam: Insects ~~showing~~ nectar

habits: carry out pollination in flowers

84 Order: Coliiformes: Coliids

Fam: Coliidae Coliids (Mud birds)

Char: No coeca all legs, directed forwards
- perisperm, reversible scat cup -
- brush. Eggs - long tails, very &
- mouse like

nat: Ethiopia

Habitat Forest. flight laboured.

Hab: Climbs with whole metatarsals,
applies to branch.

Order: Trogoniformes: Trogon 85

Fam: Trogonidae Trogon

Char Bill short, strong. Mandibles

weak & smooth. Nostrils &

base of mandible covered with

bristles. Long tail

unique rearrangement of feathers & second tail feathers.

Dist: Tropical areas of Central America, India & West of Africa.

Habitat: Forests.

Habit: Usually, singly or in pairs. Flight rapid short flicks.

Food: Fruit, insects.

General prob. most beautiful

N/B Trogon ancient form
once occurring in Palestine
as shown by fossils CNH-445

86 Order : Coraciiformes : Kingfishers

Hoopoes
Wood-hoopoes, Bee eaters
Cuckoo-rollers, rollers
Gad-rollers, Hornbills
Todies
motmots.

Fam : Alcedinidae : Kingfishers

Fam: Todidae: Todies.

Char: Bill long, flattened - Small Kingfisher -
- like bird - bill mainly straight.
Color: Bright green above, whitish beneath,
bright red throat

Dist Confined to New Guinea - West Irian.

Habit: Flycatchers, snapping up victims
as they pass.

Nest: Resemble the species by tunneling
- white egg -

88 Order: Coraciiformes

Family: Monotidae Monotid

Char Feet mesodactyl (unequal but)

Differs Toche's by greater size, ^{relatively} ^{weaker} longer, distinctly decurved bill & ^{weaker} colors: olive-green & rusty (Irides partly red or white like Toche's - Ridgway)

Distr Conf to cent. & S. America

Habitat: Forest

Habits Solitary - with long periods

Food Insects, small reptiles, ^{stream banks}

Nest: Excavate hole... white eggs.

Monotids with racket-shaped
sclerites have been shown to
produce this shape by nibbling
off the round, C. N. H. 380.



Order: Coraciiformes

89

Fam: Meropidae - 220 species

90 Order: Coraciiformes

Fam: Coraciidae; Rollers

Order: Coraciiformes

91

Fam. Brachypteraciidae: Ground-rollers.

92. Order Ceraciiiformes

Fam: Leptosomatidae: Buckoo-robbers.

~~Caprimulgidae~~

Fam: Upupidae Hoopoes

do long bill Hornbill like - structure
- crested 2nd toe quite free from claw

Dist. Other Pat. from Ant. to Zanz., ^{Ethiopia} (Africa),
Indon. Iles, as far as Borneo.

Habitat: Low scrub, open places, old building etc

Habit: Feeds mainly on grs

Call Hoop - Hoop

Nest: holes places, loose stone walls etc
- normally no nest material eggs 5-8-
whitish-grey - yellow shell

94 Order: Coraciiformes.

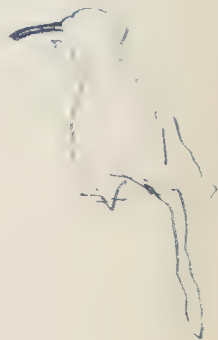
Fam: Phoeniculidae: Wood-hoopoes
(scimitar-bills)

hab Parks, search deep woods for
food. Not a nest seen or described.

Dist Ethiopia.

Colors Green black some red

bill open



Order: Coraciiformes:

95

Fam. Bucerotidae: Hornbills.
Latin genus hoopoe.

Char. Bill very large cellular bony structure.

- casque on helmet - some spp.
shelike - unres. with ...

Strong excreta on eyelids

Eggs white ... naked &
helpless ... monodible ...

Diet: Belted Kingfisher ...

Habitat: Jungle forest, near rivers

habit - perches, perches, insect ...

It casts up lining, gizzard - 1-2 per
month young? ? ...

Nesting: Junction of 2 branches serves as
nest, 1 female ... plaster, dung etc.

- 1 prob. walls her self in - 1-4 white eggs

1 emerge with young. It feeds ...
through hole

96 Order: Piciformes. Tacamaras
Barbets
Toucans
Woodpeckers
Puffins


Fam: Galbulidae : Tacamaras

Gen Zygodactylon long pointed tail
- bee-eater like but zygodactylous, misshapen
plumage, long, pointed bill

Dist: Neotrop (Cent. & S. America)

Habitat: Forest near water

Breeding: Holes - in tree bark, possibly
old stumps - eggs white, rounded

Food - Insects. 
- caught in air - flycatcher like
- flycatcher, like.

Family: Bucconidae - Puffins

Gen: Tyrgodactylus, short-changed bill

Gen: Galbula (p 96), bill looks more or less

at key In general purely arboreal
Bill like red or yellow crest - holes. Puff up
Blacks brown. 2 + rufous blue. cap. 10.5

Dist Arica + El Arica

Habitat: wooded area. jungle forest



Order: ~~Indicatoridae~~
Piciformes

99

Fam: Indicatoridae: Honeyguides
char Zygodactylus, some rather pink-
like

Dist: Subsp: 2nd (Himalayas)

N/B Reps & Friedman, The Honeyguides
NSA Nat Mus. Bull No 208

100 Order: Piciformes

Fam: Ramphastidae Toucans

Char: Zygodactylous - narrow bill

- superficially reminiscent of Bucerotidae
bill is long, the pharynx with lightness
Tongue broad and fleshy

Dist: Neotropical

Habits: Feeds on fruit and insect but
unable to reach ends of branches
- up of fruit down - and catch - large
bill.

Though less zygodactylous than hop
on branches not climb.

Nests: 2. hollows - eggs - 2.

Order Piciformes

101

Fam: Picidae : Woodpeckers, Picole.

Fam: Eurylaimidae: Broadbills

char: Distinct, from all other passerines by

bill & connected: = 3rd & 4th toes partly

webbed (intermediate stage) Bill broad.

Heavy shape, stable habits, bright colours, large head,

1 + 1 + 1 + 1. Yellow & Blue layers - large longish

many have distinct marked patches

Dist: Typical & ~~confined~~ to Sub. Region

- large numbers observed. 2nd to 4th found in Africa

Habits: Forest, part insectivorous & some fruit

Nests Hanging, eggs spotted.



Fam.: Dendrocoptidae : Woodh. vers.

Fam: Fernandina Smith

Gen: long tarsi, she-skel

Dist: str Am. str of Panama - characteristic
of Patagonian sub-region

Small, brownish (tarsi)

Nest: Branch, top of post-etc, roof of house
- mud with horse hair, rootlets etc.

pellets. - make large structure
shaped like baker's oven

Fam: Formicariidae. 2, + the 1st.

Fam: Conopogonidae: Ant. 10/13

Fam: Rhinocryptidae: Tapaculos.
Char Small wren-like birds, large
 feet, straight claws.

Dist: Sth Amer. Nth L.A.

Habits: ~~Was~~ Run actively, ~~not~~ fast

Fam. Otinidae (Chatterers)

has one of great famil. col. of families of
Tropical America - from 3" to 18" -
some brilliant, some dull. ^{short bill -} broad tail.

90 eggs max.

Dist.: Neotrop. One occurs N. America

hab.: Nesting. Usually, some elaborate
hanging nest, some rough stick
platform, some in holes & trees.

Cock-o-the-rock Rupicola rocea Bright orange brown
^{white throat} feathers. ^{black} ^{richness} ^{strongest}
feathers ^{lustrous}, compressed ^{on}
feet. ^{Venezuela} : ^{Bolivia}.

Umbrella Bird Cephalopterus ornatus : Black
metallic greenish reflections - large feathered
wattle hanging from throat, expanded
large flattened crest. ^{Guiana} ^{Amazonia}

Best-bird Chasmorchynchus spp. white plum etc.
shows. ♂ have naked ^{conspicuous}
(up to 3. slender ^{up to} - ^{country}

Chasmorchynchus
zicmuntatus



Fam: Piperidæ · Nim. m. m.

Fam: Tyrannidae. Tyrant Flycatcher

Fam: Oxyruncidae. Sharpbill.

Fam. Phytotomidae *Phytotomidae*

Fam: Pittidae Pitts

Fam Acanthisittidae : A. Z. Wrens

Fam 1: Philepittidae: Asities, phaeocephala

Fam. Menicidae Lyons

Fam. Atrichornithidae: Scrub-birds.

Fam: Alaudidae. Lar.

Sam: Hirundinidae Swallow

Form: Campoplex Centrosaurus

Fam Dierckxide 1872

Fam. Orizidae : Old World Oriotes

Fam: Corvidae: Crows, Magpies, Jays.

Fam Cracticidae

Red Magpie

As 1. 2. 3. 4. 5. 6.

Fam Grallinidae - Peppercorn

Fam. Ptilonorhynchidae. Bowerbirds

Form: Paradiseidae. Birds of Paradise.

Fam. Paradoxornithidae Ferr. 1815, p. 108

Form: Parvite Titanite

Fam: Sittidae : Mitrochalcus

Fam. Hyposittidae. Crab-like birds.

Fam Cartledge Crester

Fam. Chambers 1941

Fam: Timaliidae: Babbler Thrushes

Fam: Pycnonotidae: Bulbuls

Fam: Cinclidae : Divers

Fam: Troglodytidae Wrens

Fam: Mimidae: Thrashers Mocking Birds

Fam: Turdidae: Thrushes

Fam : Lele d'ornie : Wren-thrushes

Fam. Sylviidae: Old World Warblers

142.

Fam. Regulidae: Kinglet. ^(Goldcrest to Firecrest)

Fam: Muscipidae:

Exm. Prunellidae : Hyemalis leuco-thorax

F&M Motacillidae; Wigtails, Pipits

Fam: Bombycillidae. Waxwings

Char sleek plumage, some coloured linings

- 2 spp with wax-like col. appendage on wing

Dist: Palaearctic & Nearctic

Nesting: cup-shaped - - - - - comfies

migratory . influxes .

mainly arboreal, food berries, chiefly silent.

n/b wax tip formed by fusion of 1st & 2nd
feathers with tip of outer one
4th. / 298

Fam: Ptilonotidae . Silky Flycatchers

Fam: Dulidae - Palm-leaf

Fam: Artamidae: Wood-swallows

Fam: Vangidae Vangachrikes.

Fam: Laniidae : Shrikes

Fam. Prionopidae mud shrikes

Fam: Cycloarthidae Pepper-shrikes

Fam: Vireonidae : ~~Shrike-Vireo~~ ~~Shrike-Vireo~~

Fam. Callaeidae: Wattled Crows Huias, Saddlebacks

Dist.: Conf. to N.Z.

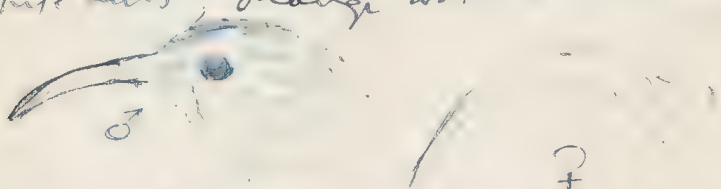
^{like}
Saddle back Philesternus carunculatus
2 Subsp. Both now very rare Nth & S.I.

Fea: Glossy black. back chestnut. neck & feet
black - wattle orange
Insects berries, water
Nests - dead tree
Eggs pale grey, buff brown blotch.

Huia: Heteractocha acutirostris

Nth I. N.Z. prob. extant level about 1907.

Gen. colour glossy black greenish gloss - wing
white bell's orange wattle both sexes



Feeds on insect larvae spiders, fruit, etc.
Nth & S.I. ab. sil. bearing wood for larvae - found
nest - 2 probes into soft tunnels where he
could reach. They live to young, rarely
flying high. forest country
Nest in hole - one white - show.

Wattled Crow Hakaka Callaeas cinerea
2 Subsp. Nth I. S.I. N.Z.

Chm. white chestnut - black grey
- velvety black - the bright black at the
Eggs olive grey, speckled buffish grey
keep to ground, fly very little.
red fruit

Fam. Stermidae

Fam. Meliphagidae Honeyeaters

Australo-Papuan Region - mostly new

Malaysia - 1 sp. Brown Honeyeater -

Lichenura indistincta reaching Bali

2 in N.Z. 3 indigenous. exclusive sp.

Stitchbird (Hibi) Notiomystis cincta "Stitch" name
from call. rather meliorius like black & yellow.

Bell-bird Anthornis melanura + others: olive green
mosses - purpleheads - some bell-like notes.

Tui Prosthemadera nouveselandiae

Metallic green - bluish purple reflection.
plumage - long plumes on head & neck
Two white tufts on throat



Fam: Nectariniidae . seriatus

Faint. Disappears. Faint. Disappears.

Fam. Losteroides listeri listeri

Fam. Vireonidae. Troglodytes (Greenlets)

Char.: Small greenish. grayish yellow - lighter
in all parts, & marked with spots, stripes, streaks.

Dist.: N. Am., cent. & S. America

Habitat.. Leafy portions of trees

Habits.. Insectivorous

Nest.. cup shape & suspended between branch
forks. Lined with grasses - etc - bound
together with spider-webs. Eggs 3-5 - white-
creamy - spotted brown - purple.

"But note that Wood-warbler, also exists in America

N/B Appears to take place of Red-headed Woodpecker -

Allegedly a of mix of acanthopneuste, & other
in S. America, & beyond etc etc etc.

Fam: Coerebidae: Honey ^{creepers} eaters.

Fam Drepanididae Harrison, 1957

Fam. - Parulidae: Wood Warblers

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Fam: Ploceidae: Weaver-finches

Fam: Icteridae: Blackbirds, Towhees.

Choi: Represent the Starling & Sturnidae) the new
would fear which latter are completely excluded
up & crowing almost but long nine quills
Tail rounded - square Black & black head
predominant yellow under tail - pull 2. dark
guttural tail quills many walk.
Dist: Near the a new 100 up. Sexes differ

Bobolinks, (American) Blackbirds, (New World) Orioles,
Meadowlarks, Cowbirds. Some like
Bobolinks & Cowbirds have about sparrow size
bills. ~~Some~~
~~Red~~ Doves - green

bowbirds: Molothrus ~~etc~~: Polygamous, polyandrous,
and no nests, lay - nests other birds

Fam. Tersinidae Shiner - 1902

Fam. : Thraupidae . Tanager .

host : mostly small, rarely all in flocks.
in the trees . 20 per cent . Sep. pro -
Carrack . by notes near end of upper movable
... "Dendroica" "Fringilla" . Sound,
rather heavily built . males show considerable
red plumage . some black and white
Voice : Rich - in - tone

Dist. : Cassin's Neotropical - 58% found -
Nth America

Food : Insects & Fruit

Nests : at least 200 , cup-shaped, rootlets
etc . on horizontal branch

Habitat : Woodlands, forest

Fam: Catamblyrhynchidae: Pleistocene to India

Fam: Fringillidae: Grosbeaks, Finches, Buntings

Class: Perhaps largest family. But small
stout, more or less stout. eyes usually deep

Dist: The most common family: (Not an d. exp.)

Darwin's Finches: Geospiza spp.

Tree-finch: Camarhynchus pallidus carries stick
Nod-pecker Finch back 1758-7.

2nd: Myiophanes

Perching Birds: Passeres

Classification in muscles of Syntex: 1847 Thomas Huxley

1. Eurylaimidae

Broadbill. upper jaw all the same angle with some non-passive, in hind corner of deep sockets of toes. There is cervical vert. compared with it in most other Passeres.

dividing Passeres, into 2 groups

A. Mesomyodes or Clamatores: In these are muscles of any of Syntex attached to one of the ends or to the middle of bronchial half rings. (Eurylaimidae agree with this but are subdivided)

B. Homomyodes: Muscles attached to both ends of bronchial half rings. Contains Oscines or True Song Birds plus: Strickhornithidae & Monodidae. Only 2-3 pairs of syntex muscles compared in these genera compared with 5-7 pairs in Oscines proper but attachment similar.

If about 8600 species of living birds. 5000-5100 = Passeres (about 4000 Oscines) As a group the song birds are the most numerous, successful, and apparently the most numerous of the entire class Aves.



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Rare and/or Unusual Species

Horned Grebe Fulica cornuta

Diving birds: Gannets, Pelicans, Tropicbirds.
Terns

